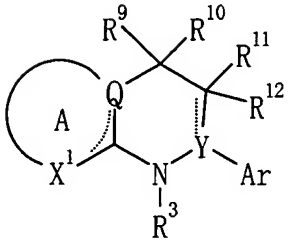
1. (ORIGINAL) A compound of the formula (II):



(II)

wherein ring A is an optionally substituted 5- to 7-membered ring;

Q is C,

$CR^5$ (wherein $R^5$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group)),

or N;

$X^1$ is $CR^1$ (wherein $R^1$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)),

$CR^1R^2$ (wherein $R^1$ is as defined above, and $R^2$ is H, or an optionally substituted hydrocarbon group),

N,

or $NR^{13}$ (wherein $R^{13}$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above));

$R^3$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above);

Y is C,

$CR^4$ (wherein $R^4$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)), or N;

Ar is an optionally substituted cyclic group;

$R^9$ and $R^{10}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above);

and $R^{11}$ and $R^{12}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^{1'}-Z^2$ (wherein $-Z^{1'}-$ is -CS-, -SO- or $-SO_2-$, and $Z^2$ is as defined above);

or $R^9$ and $R^{10}$, or $R^{11}$ and $R^{12}$ may be combined to form an oxo group, methylene group or a ring;

or $R^{10}$ and $R^{11}$ may be combined to form a ring; and

_ _ _ is a single bond or a double bond;

provided that

(1) when ring A is a 6-membered ring and Q is C or $CR^5$, $X^1$ is $C-Z^1-Z^2$, $C(-Z^1-Z^2)R^2$ or $N-Z^1-Z^2$, and both $R^9$ and $R^{10}$ are not H, or $R^9$ and $R^{10}$ are not combined to form an oxo group, or $R^{10}$ and $R^{11}$ are not combined to form a 5-membered ring,

(2) when ring A is a 6-membered ring and Q is N, $X^1$ is $C-Z^1-Z^2$, $C(-Z^1-Z^2)R^2$ or $N-Z^1-Z^2$, and $R^9$ and $R^{10}$ are not combined to form an oxo group,

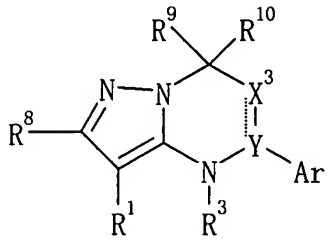
(3) when ring A is a 5-membered ring and Q is C or $CR^5$, $X^1$ is $C-Z^1-Z^2$, $C(-Z^1-Z^2)R^2$ or $N-Z^1-Z^2$, and $Z^2$ is an optionally substituted amino group, and

(4) when ring A is a 5-membered ring and Q is N, at least one of $R^9$ and $R^{10}$ is $CHR^{15}R^{16}$ (wherein at least one of $R^{15}$ and $R^{16}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an

optionally substituted amino group, an optionally substituted thiol group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula:$-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above))

and the other is other than an optionally substituted phenyl group; or a salt thereof.

2. (ORIGINAL) A compound of the formula (III):



(III)

wherein $R^1$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted thiol group, an optionally substituted amino group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group);

$R^3$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above);

Y is C, $CR^4$ (wherein $R^4$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)) or N;

$R^8$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above);

Ar is an optionally substituted cyclic group;

$R^9$ and $R^{10}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above), or $R^9$ and $R^{10}$ may be combined to form an oxo group, methylene group or a ring;

$X^3$ is a bond, oxygen atom, an optionally oxidized sulfur atom, N, $NR^{7'}$ (wherein $R^{7'}$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted heterocyclic group, or a group of the formula $-Z^{1'}-Z^2$ (wherein $-Z^{1'}-$ is -CS-, -

SO- or $-SO_2-$, and $Z^2$ is as defined above)), or an optionally substituted bivalent $C_{1-2}$ hydrocarbon group; and

_ _ _ is a single bond or a double bond;

provided that at least one of $R^9$ and $R^{10}$ is $CHR^{15}R^{16}$ (wherein $R^{15}$ and $R^{16}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)) and the other is other than an optionally substituted phenyl group; or a salt thereof.

3. (CURRENTLY AMENDED) The compound according to claim 1 ~~or 2~~, wherein $R^1$ is

(1) an optionally substituted heterocyclic group, or

(2) a group of the formula: $-Z^1-Z^2$ ~~(~~wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group~~)~~.

4. (ORIGINAL) The compound according to claim 3, wherein $Z^1$ is -CO- and $Z^2$ is an optionally substituted hydroxyl group or an optionally substituted amino group.

5. (ORIGINAL) The compound according to claim 2, wherein $R^3$ is H, a $C_{1-6}$ alkyl group or a $C_{7-14}$ aralkyl group.

6. (ORIGINAL) The compound according to claim 2, wherein $R^8$ is H, a $C_{1-6}$ alkyl group, a $C_{1-6}$ alkylthio group or a $C_{1-6}$ alkoxy group which may be substituted with hydroxyl group.

7. (CURRENTLY AMENDED) The compound according to claim 1 ~~or 2~~, wherein $R^9$ and $R^{10}$ are the same or different and are a $C_{1-6}$ alkyl group or $R^9$ and $R^{10}$ are combined each other to form a ring.

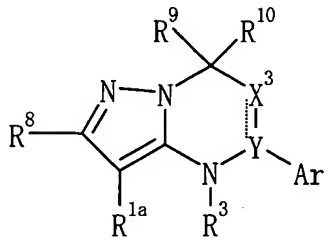
8. (ORIGINAL) The compound according to claim 2, wherein $R^1$ is a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group); $R^3$ is H; Ar is an optionally substituted aromatic ring group; $X^3$ is $CR^{11}R^{12}$ (wherein $R^{11}$ and $R^{12}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above), or $R^{11}$ and $R^{12}$ may be combined to form an oxo group, methylene group or a ring); and $R^9$ and $R^{10}$ are the same or different and a $C_{1-6}$ alkyl group, or $R^9$ and $R^{10}$ may be combined to form a ring.

9. (ORIGINAL) The compound according to claim 8, wherein $R^1$ is an optionally substituted carbamoyl group.

10. (ORIGINAL) The compound according to claim 9, wherein $R^1$ is a group of the formula: $-CONR^{20}(CR^{21}R^{22}R^{23})$ (wherein $R^{20}$ is H

or an optionally substituted hydrocarbon group, and $R^{21}$, $R^{22}$, and $R^{23}$ are the same or different and are an optionally substituted hydrocarbon group or an optionally substituted heterocyclic group, or $R^{20}$ and $R^{21}$ may be combined to form a ring).

11. (ORIGINAL) A compound of the formula (IIIa):



(IIIa)

wherein $R^{1a}$ is (1) an optionally substituted heterocyclic group, or

(2) a group of the formula: $-Z^{1a}-Z^{2a}$ (wherein $-Z^{1a}-$ is -CO-, -CS-, -SO- or $-SO_2-$, and

$Z^{2a}$ is (i) an optionally substituted heterocyclic group,

(ii) $-NR^{20a}(CR^{21a}R^{22a}R^{23a})$ (wherein

(a) $R^{20a}$ is H or an optionally substituted hydrocarbon group; and $R^{21a}$ is an optionally substituted heterocyclic group which may be fused with an optionally substituted benzene ring, or an optionally substituted phenyl group which may be fused with an optionally substituted aromatic heterocyclic ring and $R^{22a}$ and $R^{23a}$ are the same or different and are an optionally substituted hydrocarbon group or an optionally substituted heterocyclic group or $R^{22a}$ and $R^{23a}$ may be combined to form a ring, or

(b) $R^{20a}$ is H or an optionally substituted hydrocarbon group; and $R^{21a}$, $R^{22a}$ and $R^{23a}$ are the same or different and are an optionally

substituted $C_{1-8}$ aliphatic hydrocarbon group, provided that the sum total of the number of carbon atoms is 7 or more),

(iii) $-NR^{20a}R^{25a}$ (wherein $R^{20a}$ is as defined above and $R^{25a}$ is an optionally substituted $C_{6-10}$ aryl-$C_{2-4}$ alkyl, $C_{6-10}$ aryloxy-$C_{2-4}$ alkyl, $C_{6-10}$ arylamino-$C_{2-4}$ alkyl, $C_{7-14}$ aralkylamino-$C_{2-4}$ alkyl, heterocyclic ring-$C_{2-4}$ alkyl or heterocyclic group),

(iv) a substituted 5- to 7-membered cyclic amino group, or

(v) $-OR^{24a}$ (wherein $R^{24a}$ is

(a) an optionally substituted $C_{7-14}$ aralkyl group,

(b) an optionally substituted $C_{3-7}$ alicyclic hydrocarbon group,

(c) an optionally substituted $C_{7-24}$ aliphatic hydrocarbon group, or

(d) an optionally substituted heterocyclic group);

$R^3$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group);

Y is C, $CR^4$ (wherein $R^4$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally

substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)) or N;

$R^8$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above);

Ar is an optionally substituted cyclic group;

$R^9$ and $R^{10}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above), or $R^9$ and $R^{10}$ may be combined to form an oxo group, methylene group or a ring;

$X^3$ is a bond, oxygen atom, an optionally oxidized sulfur atom, N, $NR^{7'}$ (wherein $R^{7'}$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted heterocyclic group, or a group of the formula $-Z^{1'}-Z^2$ (wherein $-Z^{1'}-$ is -CS-, -SO- or $-SO_2-$, and $Z^2$ is as defined above)), or an optionally substituted bivalent $C_{1-2}$ hydrocarbon group; and

<u>- - -</u> is a single bond or a double bond;

provided that at least one of $R^9$ and $R^{10}$ is $CHR^{15}R^{16}$ (wherein $R^{15}$ and $R^{16}$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula:$-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)) and the other is other than an optionally substituted phenyl group; or a salt thereof.

12. (ORIGINAL) The compound according to claim 11, wherein $R^{1a}$ is a group of the formula: $-CONR^{20a}(CR^{21b}R^{22b}R^{23b})$ (wherein $R^{20a}$ is as defined in claim 11 and at least one of $R^{21b}$, $R^{22b}$, and $R^{23b}$ is an optionally substituted heterocyclic group which may be fused with an optionally substituted benzene ring, or an optionally substituted phenyl group which may be fused with an optionally substituted aromatic heterocyclic ring).

13. (ORIGINAL) The compound according to claim 11, wherein $R^{1a}$ is (1) an optionally substituted 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom, or
(2) a group of the formula: $-CO-Z^{2c}$ (wherein $Z^{2c}$ is
(i) an optionally substituted 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom,
(ii) $-NR^{20c}(CR^{21c}R^{22c}R^{23c})$ (wherein

(a) $R^{20c}$ is H or an optionally substituted hydrocarbon group selected from $C_{1-8}$ saturated aliphatic hydrocarbon group, $C_{2-8}$ unsaturated aliphatic hydrocarbon group, $C_{3-7}$ saturated alicyclic hydrocarbon group, $C_{3-7}$ unsaturated alicyclic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon group, $C_{3-7}$ saturated or unsaturated alicyclic-$C_{1-8}$ saturated or unsaturated aliphatic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{1-4}$ alkyl group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{2-4}$ alkenyl group, $C_{6-10}$ aryl group and $C_{7-14}$ aralkyl group; and $R^{21c}$ is 1) an optionally substituted 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom, which may be fused with an optionally substituted benzene ring, or 2) an optionally substituted $C_{6-10}$ aryl group which may be fused with an optionally substituted 5- to 7-membered aromatic heterocyclic ring having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom; and $R^{22c}$ and $R^{23c}$ are the same or different and are an optionally substituted hydrocarbon group selected from $C_{1-8}$ saturated aliphatic hydrocarbon group, $C_{2-8}$ unsaturated aliphatic hydrocarbon group, $C_{3-7}$ saturated alicyclic hydrocarbon group, $C_{3-7}$ unsaturated alicyclic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon group, $C_{3-7}$ saturated or unsaturated alicyclic-$C_{1-8}$ saturated or unsaturated aliphatic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{1-4}$ alkyl group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{2-4}$ alkenyl group, $C_{6-10}$ aryl group and

$C_{7-14}$ aralkyl group or an optionally substituted 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom, or $R^{22c}$ and $R^{23c}$ may be combined to form a $C_{3-7}$ carbon ring, or (b) $R^{20c}$ is H or an optionally substituted hydrocarbon group selected from $C_{1-8}$ saturated aliphatic hydrocarbon group, $C_{2-8}$ unsaturated aliphatic hydrocarbon group, $C_{3-7}$ saturated alicyclic hydrocarbon group, $C_{3-7}$ unsaturated alicyclic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon group, $C_{3-7}$ saturated or unsaturated alicyclic-$C_{1-8}$ saturated or unsaturated aliphatic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{1-4}$ alkyl group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{2-4}$ alkenyl group, $C_{6-10}$ aryl group and $C_{7-14}$ aralkyl group; and $R^{21c}$, $R^{22c}$ and $R^{23c}$ are the same or different and are an optionally substituted $C_{1-8}$ aliphatic hydrocarbon group, provided that the sum total of the number of carbon atoms is 7 or more),

(iii) $-NR^{20c}R^{25c}$ (wherein $R^{20c}$ is as defined above and $R^{25c}$ is an optionally substituted $C_{6-10}$ aryl-$C_{2-4}$ alkyl, $C_{6-10}$ aryloxy-$C_{2-4}$ alkyl, $C_{6-10}$ arylamino-$C_{2-4}$ alkyl, $C_{7-14}$ aralkylamino-$C_{2-4}$ alkyl, 5- to 7-membered heterocyclic ring (having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom)-$C_{2-4}$ alkyl or 5- to 7-membered heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom),

(iv) a substituted 5- to 7-membered cyclic amino group, or

(v) $-OR^{24c}$ (wherein $R^{24c}$ is

(a) an optionally substituted $C_{7-14}$ aralkyl group,

(b) an optionally substituted $C_{3-7}$ alicyclic hydrocarbon group,

(c) an optionally substituted $C_{7-24}$ aliphatic hydrocarbon group, or

(d) an optionally substituted 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom;

wherein said substituents for $R^{1a}$, $Z^{2c}$, $R^{20c}$, $R^{21c}$, $R^{22c}$, $R^{23c}$, $R^{24c}$ and $R^{25c}$ are 1 to 3 substituents selected from the group consisting of

1) $C_{1-6}$ alkyl,

2) $C_{2-6}$ alkenyl,

3) $C_{2-6}$ alkynyl,

4) $C_{3-7}$ cycloalkyl,

5) $C_{6-10}$ aryl which may be substituted with 1 to 3 substituents selected from the group consisting of $C_{1-6}$ alkyl, amino, N-($C_{1-6}$ alkyl)amino, N,N-di-($C_{1-6}$ alkyl)amino, amidino, carbamoyl, N-($C_{1-6}$ alkyl)carbamoyl, N,N-di-($C_{1-6}$ alkyl)carbamoyl, sulfamoyl, N-($C_{1-6}$ alkyl)sulfamoyl, N,N-di-($C_{1-6}$ alkyl)sulfamoyl, carboxyl, $C_{2-7}$ alkoxycarbonyl, hydroxyl, $C_{1-6}$ alkoxy, mercapto, $C_{1-6}$ alkylthio, sulfo, cyano, azido, halogen, nitro, nitroso, phosphono, $C_{1-6}$ alkoxyphosphoryl, di-($C_{1-6}$ alkoxy)phosphoryl and $C_{1-6}$ alkyl substituted with phosphono, $C_{1-6}$ alkoxyphosphoryl and di-($C_{1-6}$ alkoxy)phosphoryl (hereinafter the group of 5) is referred to as group "C"),

6) aromatic heterocyclic group selected from (a) aromatic 5- or 6-membered heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom, (b) fused bicyclic heterocyclic group formed by condensation of an aromatic 5- or 6-membered heterocyclic group having 1 to 3 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom with benzene ring or an aromatic 5- or 6-membered heterocyclic group having 1 to 3 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom and (c) fused tricyclic heterocyclic group formed by condensation of [1] an aromatic 5- or 6-membered heterocyclic group having 1-3 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom, [2] benzene ring, and [3] an aromatic 5- or 6-membered heterocyclic group having 1-3 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom or benzene ring,

7) heterocyclic-oxy group formed by combining each of the above aromatic heterocyclic groups (a), (b) and (c) with oxy group,

8) non-aromatic 4- or 7-membered heterocyclic group having 1 to 3 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom,

9) $C_{7-14}$ aralkyl which may be substituted with 1 to 3 substituents selected from the group "C",

10) amino group,

11) N-mono-substituted amino selected from N-($C_{1-6}$ alkyl)amino, N-($C_{2-6}$ alkenyl)amino, N-($C_{3-7}$ cycloalkyl)amino group and N-($C_{6-10}$

aryl)amino which may be substituted with 1 to 3 substituents selected from the group "C",

12) amino substituted with two substituents selected from $C_{1-6}$ alkyl, $C_{2-6}$ alkenyl, $C_{3-7}$ cycloalkenyl and $C_{6-10}$ aryl which may be substituted with 1 to 3 substituents selected from the group "C",

13) amidino,

14) acyl selected from $C_{2-8}$ alkanoyl, $C_{3-8}$ alkenoyl, $C_{3-7}$ cycloalkyl-carbonyl, $C_{3-7}$ cycloalkenyl-carbonyl, $C_{6-10}$ aryl-carbonyl which may be substituted with 1 to 3 substituents selected from the group "C", and heterocyclic-carbonyl formed by binding of an aromatic or non-aromatic 5- or 6-membered heterocyclic group having 1-3 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom with carbonyl,

15) carbamoyl,

16) mono-substituted carbamoyl group selected from N-($C_{1-6}$ alkyl)carbamoyl, N-($C_{2-6}$ alkenyl)carbamoyl, N-($C_{3-7}$ cycloalkyl)carbamoyl and N-($C_{6-10}$ aryl)carbamoyl which may be substituted with 1 to 3 substituents selected from the group "C",

17) carbamoyl substituted with two substituents selected from $C_{1-6}$ alkyl, $C_{2-6}$ alkenyl, $C_{3-7}$ cycloalkyl and $C_{6-10}$ aryl which may be substituted with 1 to 3 substituents selected from the group "C",

18) sulfamoyl,

19) N-mono-substituted sulfamoyl selected from N-($C_{1-6}$ alkyl)sulfamoyl, N-($C_{2-6}$ alkenyl)sulfamoyl, N-($C_{3-7}$ cycloalkyl)sulfamoyl and N-($C_{6-10}$ aryl)sulfamoyl which may be substituted with 1 to 3 substituents selected from the group "C",

20) sulfamoyl substituted with two substituents selected from $C_{1-6}$ alkyl, $C_{2-6}$ alkenyl, $C_{3-7}$ cycloalkyl and $C_{6-10}$ aryl which may be substituted with 1 to 3 substituents selected from the group "C",

21) carboxyl,

22) $C_{1-6}$ alkoxy-carbonyl,

23) hydroxyl,

24) $C_{1-6}$ alkoxy,

25) $C_{2-10}$ alkenyloxy,

26) $C_{3-7}$ cycloalkyloxy,

27) $C_{6-10}$ aryloxy which may be substituted with 1 to 3 substituents selected from the group "C",

28) $C_{7-14}$ aralkyloxy which may be substituted with 1 to 3 substituents selected from the group "C",

29) mercapto,

30) $C_{1-6}$ alkylthio,

31) $C_{7-14}$ aralkylthio which may be substituted with 1 to 3 substituents selected from the group "C",

32) $C_{6-10}$ arylthio which may be substituted with 1 to 3 substituents selected from the group "C",

33) $C_{1-6}$ alkylsulfinyl,

34) $C_{7-14}$ aralkylsulfinyl which may be substituted with 1 to 3 substituents selected from the group "C",

35) $C_{6-10}$ arylsulfinyl which may be substituted with 1 to 3 substituents selected from the group "C",

36) $C_{1-6}$ alkylsulfonyl,

38) $C_{7-14}$ aralkylsulfonyl which may be substituted with 1 to 3 substituents selected from the group "C",

39) $C_{6-10}$ arylsulfonyl which may be substituted with 1 to 3 substituents selected from the group "C",

40) sulfo,

41) cyano,

42) azido,

43) halogen,

44) nitro,

45) nitroso,

46) phosphono,

47) $C_{1-6}$ alkoxy-phosphoryl

48) di-$C_{1-6}$ alkoxy-phosphoryl,

49) $C_{1-6}$ alkyl substituted with phosphono, $C_{1-6}$ alkoxyphosphoryl or di-($C_{1-6}$ alkoxy)phosphoryl

50) $C_{1-6}$ alkyl substituted with 1 to 4 halogen atoms

51) $C_{1-6}$ alkoxy substituted with 1 to 4 halogen atoms and

52) $C_{1-6}$ alkylenedioxy

(hereinafter the group of above 1) to 52) is referred to as group "B");

$R^3$ is H, a $C_{1-6}$ alkyl group or a $C_{7-14}$ aralkyl group;

Y is CH;

$R^8$ is H, a $C_{1-6}$ alkyl group, a $C_{1-6}$ alkylthio group or a $C_{1-6}$ alkoxy group which may be substituted with hydroxyl group;

Ar is (1) a $C_{6-10}$ aryl group, (2) a 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected

from nitrogen atom, oxygen atom and sulfur atom, or (3) a $C_{3-7}$ saturated or unsaturated alicyclic hydrocarbon group, each of which may be substituted with 1 to 3 substituents selected from the group "B";

one of $R^9$ and $R^{10}$ is a hydrogen atom or $C_{1-6}$ alkyl group which may be substituted with 1 to 3 substituents selected from the group "B" and the other is (1) a hydrocarbon group selected from $C_{1-8}$ saturated aliphatic hydrocarbon group, $C_{2-8}$ unsaturated aliphatic hydrocarbon group, $C_{3-7}$ saturated alicyclic hydrocarbon group, $C_{3-7}$ unsaturated alicyclic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon group, $C_{3-7}$ saturated or unsaturated alicyclic-$C_{1-8}$ saturated or unsaturated aliphatic hydrocarbon group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{1-4}$ alkyl group, $C_{9-10}$ partly saturated and fused bicyclic hydrocarbon-$C_{2-4}$ alkenyl group, $C_{6-10}$ aryl group and $C_{7-14}$ aralkyl group, each of which may be substituted with 1 to 3 substituents selected from the group "B" or (2) a 5- to 7-membered aromatic or non-aromatic heterocyclic group having 1-4 hetero atoms selected from nitrogen atom, oxygen atom and sulfur atom, which may be substituted with 1 to 3 substituents selected from the group "B", or

$R^9$ and $R^{10}$ may be combined to form a $C_{5-7}$ carbon ring; and

$X^3$ is $CH_2$.

14. (ORIGINAL) The compound according to claim 8, wherein $R^1$ is a group of the formula: $-CONR^{20}(CR^{21}R^{22}R^{23})$ (wherein $R^{20}$ is H, and $R^{21}$, $R^{22}$, and $R^{23}$ are the same or different and are an

optionally substituted hydrocarbon group or an optionally substituted heterocyclic group); $R^3$ is H; Ar is an optionally substituted aromatic ring group; $X^3$ is $CH_2$; Y is CH; $R^8$ is H or an optionally substituted hydrocarbon group, an optionally substituted alkoxy group, an optionally substituted sulfanyl group, an optionally substituted sulfinyl group, or an optionally substituted sulfonyl group, $C_{1-6}$ alkoxy-carbonyl; and $R^9$ and $R^{10}$ are the same or different and are an optionally substituted hydrocarbon group.

15. (ORIGINAL) The compound according to claim 14, wherein at least one of $R^{21}$, $R^{22}$, and $R^{23}$ is an optionally substituted heterocyclic group or an optionally substituted phenyl group.

16. (ORIGINAL) The compound according to claim 14, wherein $R^{20}$ and $R^{21}$ are combined to form an optionally substituted 5- to 7-membered ring, and $R^{22}$ and $R^{23}$ are the same or different and are an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, or an optionally substituted phenyl group.

17. (ORIGINAL) The compound according to claim 14, wherein $R^{21}$ and $R^{22}$ are the same or different and are a $C_{1-8}$ hydrocarbon group, and $R^{23}$ is an optionally substituted 5-membered heterocyclic group which may be fused with an optionally substituted benzene ring, or an optionally substituted phenyl group.

18. (ORIGINAL) The compound according to claim 16, wherein $R^{20}$ and $R^{21}$ are combined to form a 5- or 6-membered ring which may

be fused with benzene ring and/or substituted with 1 to 3 substituents selected from the group consisting of (1) halogen, (2) hydrogen, (3) a phenoxy which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$ alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl and N,N-di-$C_{1-6}$ alkyl-carbamoyl,

(4) $C_{1-6}$ alkoxy which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$ alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl, N,N-di-$C_{1-6}$ alkyl-carbamoyl and phenyl which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$ alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, halogeno $C_{1-6}$ alkyl, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl and N,N-di-$C_{1-6}$ alkyl-carbamoyl,

and (5) a $C_{1-8}$ hydrocarbon group which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$ alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl, N,N-di-$C_{1-6}$ alkyl-carbamoyl and phenyl which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$

alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, halogeno $C_{1-6}$ alkyl, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl and N,N-di-$C_{1-6}$ alkyl-carbamoyl, and $R^{22}$ and $R^{23}$ are the same or different and $C_{1-8}$ hydrocarbon group which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$ alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl, N,N-di-$C_{1-6}$ alkyl-carbamoyl and phenyl which may be substituted with 1 to 3 substituents selected from halogen, hydroxyl, $C_{1-6}$ alkyl, $C_{1-6}$ alkoxy, $C_{1-6}$ acyl, cyano, halogeno $C_{1-6}$ alkyl, amino, mono-$C_{1-6}$ alkyl-amino, di-$C_{1-6}$ alkyl-amino, $C_{1-6}$ alkyl-sulfanyl, $C_{1-6}$ alkyl-sulfinyl, $C_{1-6}$ alkyl-sulfonyl, $C_{1-6}$ alkoxy-carbonyl, carbamoyl, N-$C_{1-6}$ alkyl-carbamoyl and N,N-di-$C_{1-6}$ alkyl-carbamoyl.

19. (ORIGINAL) N-(1-ethyl-1-(4-methylphenyl)propyl)-7,7-dimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-ethyl-1-(4-methylphenyl)propyl)-5-(2-fluorophenyl)-7,7-dimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-ethyl-1-(4-methylphenyl)propyl)-2,7,7-trimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-ethyl-1-(4-ethylphenyl)propyl)-2,7,7-trimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-ethyl-1-(4-methylphenyl)propyl)-5-(2-fluorophenyl)-2,7,7-trimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-ethyl-1-(4-ethylphenyl)propyl)-5-(2-fluorophenyl)-2,7,7-trimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

5-(2-chlorophenyl)-N-(1-ethyl-1-(4-methylphenyl)propyl)-2,7,7-trimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-(4-(dimethylamino)phenyl)-1-ethylpropyl)-5-(2-fluorophenyl)-2,7,7-trimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1,1-diethylbutyl)-5-(2-fluorophenyl)-2,7,7-trimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

N-(1-ethyl-1-phenylpropyl)-5-(2-fluorophenyl)-2,7,7-trimethyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine-3-carboxamide or a salt thereof,

3-(5-(1-ethyl-1-(4-methylphenyl)propyl)-1,3,4-oxadiazol-2-yl)-2,7,7-trimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine or a salt thereof,

3-(5-(1-ethyl-1-(4-methylphenyl)propyl)-1,3,4-thiadiazol-2-yl)-2,7,7-trimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine or a salt thereof,

3-((4-(benzyloxy)-2,2-diethyl-1-pyrrolidinyl)carbonyl)-7,7-dimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine or a salt thereof,

3-((2,2-diethyl-4-methoxy-1-pyrrolidinyl)carbonyl)-7,7-dimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine or a salt thereof, or

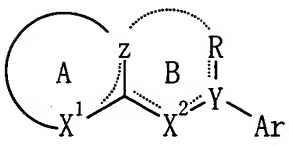
3-((2,2-diethyl-4-fluoro-1-pyrrolidinyl)carbonyl)-7,7-dimethyl-5-phenyl-4,5,6,7-tetrahydropyrazolo[1,5-a]pyrimidine or a salt thereof.

20. (ORIGINAL) The compound according to claim 19, which is an optically active compound.

21. (CURRENTLY AMENDED) A prodrug of the compound according to claim 1~~, 2 or 13~~.

22. (CURRENTLY AMENDED) A pharmaceutical composition which comprises the compound according to claim 1~~, 2 or 13~~ or a prodrug thereof and a pharmaceutically acceptable carrier, excipient or diluent.

23. (ORIGINAL) A composition for modulating calcium receptor which comprises a compound of the formula (I):



(I)

wherein ring A is an optionally substituted 5- to 7-membered ring;

ring B is an optionally substituted 5- to 7-membered heterocyclic ring;

$X^1$ is $CR^1$ (wherein $R^1$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group)), $CR^1R^2$ (wherein $R^1$ is as defined above, $R^2$ is H or an optionally substituted hydrocarbon group), N or $NR^{13}$ (wherein $R^{13}$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above));

$X^2$ is N or $NR^3$ (wherein $R^3$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above);

Y is C, $CR^4$ (wherein $R^4$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally

substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)) or N;

Z is $CR^5$ (wherein $R^5$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)), $CR^5R^6$ (wherein $R^5$ and $R^6$ are the same or different and are H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above)), N or $NR^7$ (wherein $R^7$ is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, cyano group, a halogen atom, an optionally substituted heterocyclic group, or a group of the formula: $-Z^1-Z^2$ (wherein $-Z^1-$ and $Z^2$ are as defined above));

Ar is an optionally substituted cyclic group;

R is H, an optionally substituted hydrocarbon group, an optionally substituted hydroxyl group, an optionally substituted amino group, an optionally substituted thiol group, an optionally substituted sulfonyl group or an optionally substituted sulfinyl group, or R and Z may be combined to form a ring B; and

<u>- - -</u> is a single bond or a double bond;

or a salt thereof or a prodrug thereof.

24. (ORIGINAL) The composition according to claim 23, which is a calcium receptor antagonist.

25. (ORIGINAL) The composition according to claim 23, which is an agent for preventing or treating diseases caused by abnormality of calcium concentration in a living body or a calcium receptor.

26. (ORIGINAL) The composition according to claim 23, which is an agent for preventing or treating bone diseases.

27. (ORIGINAL) The composition according to claim 23, which is an agent for preventing or treating osteoporosis or fracture.

28. (ORIGINAL) A method for modulating a calcium receptor which comprises administering to a mammal an effective amount of a compound of the formula (I) or a salt thereof or a prodrug thereof according to claim 23.

29. (ORIGINAL) A method for preventing or treating bone diseases, which comprises administering to a mammal an effective amount of a compound of the formula (I) or a salt thereof or a prodrug thereof according to claim 23.

30. (ORIGINAL) Use of the compound of the formula (I) or a salt thereof or a prodrug thereof according to claim 23 for producing a calcium receptor modulator.

31. (ORIGINAL) Use of the compound of the formula (I) or a salt thereof or a prodrug thereof according to claim 23 for producing a composition for preventing or treating bone diseases.

32. (NEW) The compound according to claim 2, wherein $R^1$ is

(1) an optionally substituted heterocyclic group, or

(2) a group of the formula: $-Z^1-Z^2$ wherein $-Z^1-$ is -CO-, -CS-, -SO- or $-SO_2-$, and $Z^2$ is an optionally substituted hydrocarbon group, an optionally substituted heterocyclic group, an optionally substituted hydroxyl group, or an optionally substituted amino group.

33. (NEW) The compound according to claim 2, wherein $R^9$ and $R^{10}$ are the same or different and are a $C_{1-6}$ alkyl group or $R^9$ and $R^{10}$ are combined each other to form a ring.

34. (NEW) A prodrug of the compound according to claim 2.

35. (NEW) A pharmaceutical composition which comprises the compound according to claim 2 or a prodrug thereof and a pharmaceutically acceptable carrier, excipient or diluent.

36. (NEW) A prodrug of the compound according to claim 13.

37. (NEW) A pharmaceutical composition which comprises the compound according to claim 13 or a prodrug thereof and a pharmaceutically acceptable carrier, excipient or diluent.